

What is claimed is:

1. A blood sugar level measuring method for measuring blood sugar level using a measuring apparatus comprising a body-surface contact portion, a temperature detecting portion for measuring temperatures on the body surface and of the environment, and an optical measuring portion for measuring the hemoglobin concentration and hemoglobin oxygen saturation in blood, wherein blood sugar level is calculated based on measurement data provided by said temperature detecting portion and by said optical measurement portion, said method comprising:

a first step of determining whether or not the output from said temperature detecting portion is within a predetermined range when the body surface is not in contact with said body-surface contact portion; and

a second step of continuing with measurement if said output is within the predetermined range but making an error display and resetting the measurement if said output is outside the predetermined range.

2. The blood sugar level measuring method according to claim 1, wherein said temperature detecting portion comprises a radiation temperature detector for detecting radiation temperature, said detector having an open end thereof positioned at said body-surface contact portion, and wherein, in the first step, comparisons are made between the detected radiation temperature and a predetermined radiation temperature threshold, between the detected environment temperature and a predetermined environment temperature, and between information about the amount of change in the temperature measured on the body surface and a predetermined threshold.

3. A blood sugar level measuring method for measuring blood sugar level using a measuring apparatus comprising a body-surface contact portion, a temperature detecting portion for measuring temperature on the body surface, and an optical

measuring portion for measuring the hemoglobin concentration and hemoglobin oxygen saturation in blood, wherein blood sugar level is calculated based on measurement data provided by said temperature detecting portion and by said optical measurement portion, said method comprising:

a step of detecting chronological change in the output from said temperature detecting portion;

detecting the presence or absence of contact of a body surface to said body-surface contact portion based on the chronological change in said output;

a first step of starting the storage of said measurement data for the calculation of said blood sugar level upon detection of contact of the body surface to said body surface contact portion;

a second step of detecting the moment of departure of the body surface from said body surface contact portion based on chronological changes in the output from said temperature detecting portion; and

a third step of making an error display and resetting the measurement if the detected moment is within a predetermined time, or if the departure of the body surface from said body surface contact portion is not detected a certain time after said predetermined time.

4. The blood sugar level measuring method according to claim 3, further comprising the step of making an advance-notice display of the timing of departure of the body surface from said body surface contact portion, wherein in the third step, said predetermined time is the time between the time of start of storage of said measurement data and the timing of departure of the body surface, wherein if the detected moment is before said timing, or if no detection is made of the fact that the body surface has left said body surface contact portion even after said certain time, a display is made indicating that an error has occurred in the measuring apparatus, while resetting the measurement.

5. The blood sugar level measuring method according to claim 4, wherein the advance-notice of the timing of departure of the body surface from said body surface contact portion is made by way of a countdown to said timing on a display portion of the measuring apparatus.

6. The blood sugar level measuring method according to claim 3, wherein the output from said temperature detecting portion comprises an output of a temperature detector that detects the temperature on said body surface contact portion.

7. A blood sugar level measuring apparatus comprising:

a body surface contact portion;

a temperature detecting portion for measuring the temperature on a body surface and environment temperature;

an optical measuring portion for measuring hemoglobin concentration and hemoglobin oxygen saturation in blood;

a calculation portion for calculating blood sugar level based on measurement data provided by said temperature detecting portion and measurement data provided by said optical measuring portion;

a display portion;

an error decision portion; and

a control portion for centrally controlling individual portions, wherein said error decision portion determines whether or not either the temperature on said body surface or the environment temperature is within a predetermined range, and wherein said control portion causes said calculation portion to calculate said blood sugar level if said error decision portion determines that the temperature on said body surface and said environment temperature are within said predetermined range.

8. The blood sugar level measuring apparatus according to claim 7, wherein said control portion identifies the moment of contact of the body surface to said body surface contact portion and the moment of departure of the body surface from said body surface contact portion by detecting chronological changes in the output from said temperature detecting portion, wherein, upon detection of contact of the body surface to said body surface contact portion, said measurement data is stored and an advance-notice display is made on said display portion indicating the timing of departure of the body surface from said body surface contact portion.
9. The blood sugar level measuring apparatus according to claim 7, wherein said control portion instructs an error display to be made on said display portion and resets the measurement upon detection of the departure of the body surface from said body surface contact portion before said timing is reached, or in the absence of detection of the departure of the body surface from said body surface contact portion even after a predetermined time following said timing.
10. The blood sugar level measuring apparatus according to claim 7, wherein the advance-notice display of the timing of departure of the body surface from said body surface contact portion is made by way of a countdown displayed on said display portion.
11. The blood sugar level measuring apparatus according to claim 7, wherein said error decision portion determines whether or not the output from said temperature detecting portion is within a preset range when the body surface is not in contact with said body surface contact portion, wherein an error display is made and the measurement is reset if said output is outside the predetermined range.